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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,843	06/01/2001	Yuzo Yoneyama	Q64787	8685
7590	05/03/2005		EXAMINER	
SUGHRUE, MION, ZINN, MACPEACK & SEAS 2100 Pennsylvania Avenue, N.W. Washington, DC 20037			TORRES, JUAN A	
			ART UNIT	PAPER NUMBER
			2631	

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/870,843

Applicant(s)

YONEYAMA, YUZO

Examiner

Juan A. Torres

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2005.
- 2a) ☒ This action is **FINAL**.      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 2 and 4 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9 is/are allowed.
- 6) ☒ Claim(s) 1,3,6,10 and 11 is/are rejected.
- 7) ☒ Claim(s) 5,7 and 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (i).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Drawings***

The drawings were received on 02/17/2005. These drawings are accepted by the Examiner.

### ***Specification***

The modifications to the specification were received on 02/17/2005. These modifications are accepted by the Examiner.

### ***Claim Rejections - 35 USC § 112***

In view of the amendment filed on 02/17/2005, the Examiner withdraws the 35 USC § 112 rejections to claims 6-8 of the previous Office Action.

### ***Response to Arguments***

Applicant's arguments filed on 02/17/2005 have been fully considered but they are not persuasive.

The Applicant contends, "Mesko discloses summing (either by 72 summing signals from couplers 74 and 76 or by 80 which inherently sums signals from 60 and 62) of dual RF signals from a diversity transmitter 20 before inputting the summed RF signal into a signal quality measurer 70 via a RF down converter (Fig. 1; col. 3, lines 3-4, col. 4, lines 14-17, col. 4, lines 36-38. col. 4, lines 47-50, 14). Mesko discloses a summed signal for input into a comparator/delay controller. In contrast, Applicant claims

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detectors, for detecting RF signals (from each of the transmission units) and outputting a detection signal from two detectors to a (one) comparator when an RF signal is detected, where the one comparator compares the detection signals corresponding to each of the two transmission units (claim 1). At least for failing to disclose comparison of detected RF signals from each of the two transmission units, Applicant asserts that the alleged anticipation by Mesko under 35 U.S.C. 102(e) should be withdrawn".

The Examiner disagrees and asserts, that, as indicated in the previous office action, Mesko discloses "a comparator for comparing the detection signals output from the two detectors of two transmission units in said plural transmission units and outputting a comparison signal (figure 1 block 54, column 5 line 23-30)". Mesko in his disclosure indicates, *inter alia*, "After detecting the energy in selected coded channels, signals representing the energy are input into processor 54. According to an important aspect of the present invention, processor 54 examines the energy in various channels, and, upon detecting energy in unused channels, produces an output proportional to a difference in delay between the first and second radio frequency diversity signals in transmitter 20". The signal in 60 and 62 of Mesko are orthogonal and they can be send together without interference to each other and, as it is clearly indicated by Mesko, block 54 produces an output proportional to a difference in delay between the first and second radio frequency diversity signals in transmitter 20.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3, 6, 10 and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Meszko (US 6327299).

As per claim 1 Meszko discloses a transmission diversity type transmitter comprising: plural transmission units, each transmission-unit comprising a delay circuit for delaying a signal and a detector for detecting an RF signal which is based on the signal derived by said delay circuit, the RF signal transmitting from each transmission unit (figure 1 blocks 50 and 52 blocks 56 and 58 and block 54); a comparator for receiving detection signals output from two detectors of two transmission units of said plural transmission units comparing the detection signals and outputting a comparison signal (figure 1 block 54, column 5 line 23-30); and a delay amount control circuit for controlling said delay circuits on the basis of the comparison signal so that modulation timing of RF signals to be transmitted from said two transmission units are coincident to each other (figure 1 block 54, column 5 line 23-30 block 50 and 52, column 5 line 42-44).

As per claim 3 Meszko inherently discloses that the delay amount control circuit calculates an average amplitude of the comparison signal output from the comparator, and controls the delay circuits so that the average amplitude is equal to or lower than a

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threshold value, whereby the difference in delay time between said two transmission units is converged to an acceptable value range.

As per claim 6 Meszko discloses that each of the plural transmission units further comprises, a modulator, a frequency converter and an amplifier, and the delay circuit is provided between the modulator and the frequency converter (figure 1 blocks 32, 34, 50, 52 and 56, 58).

As per claim 10 Meszko inherently discloses that the value range to which the difference in delay time between said two transmission units is converged is specified.

As per claim 11 Meszko discloses a transmission diversity type transmitter comprising: a first transmission unit comprising a first delay circuit for delaying a signal and a first detector for detecting a first RF signal which is based on the signal delayed by said first delay circuit, said first transmission unit transmitting the first RF signal (figure 1 block 50 column 3 lines 41-51); a second transmission unit comprising a second delay circuit for delaying a signal and a second detector for detecting a second RF signal which is based on the signal delayed by said second delay circuit, said second transmission unit transmitting the second RF signal (figure 1 block 52 column 3 lines 41-51); a comparator for receiving detection signals output from said first and second detectors, comparing the detection signals and outputting a comparison signal (figure 1 block 54, column 5 line 23-30); and a delay amount control circuit for controlling said first and second delay circuits on the basis of the comparison signal so that modulation timing of the first and second RF signals are coincident to each other (figure 1 block 54, column 5 line 23-30 block 50 and 52, column 5 line 42-44).

***Allowable Subject Matter***

Claims 5-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 9 is allowable over prior art (if the above objections are overcome).

The following is an examiner's statement of reasons for allowance: claim 9 is allowed because the references cited fail to teach, as applicant has, a transmission diversity type transmitter in which the same modulation waves are transmitted from transmission units at the same time by delaying a **base band signal** with delay circuits and modulation timing is made coincident among the modulation waves at a reception point to achieve a diversity gain, the transmitter comprising a detector for detecting an RF signal of each transmission unit and outputting a detection signal; a comparator for comparing detection signals output from two detectors of two transmission units in the plural transmission units and outputting a comparison signal; and a delay amount control circuit for controlling the delay circuits of the two transmission units on the basis of the comparison signal output from the comparator so that the modulation timing is coincident at transmission output terminals of the two transmission units where the base band signal is subjected to ON/OFF control, the rising timing and falling timing of the detection output when the ON/OFF control is carried out are compared with each other by the comparator, and the delay circuits are controlled by the delay amount control circuit so that the difference between the rising timing and the falling timing is within a permissible time range, as the applicant has claimed.

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***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan A. Torres whose telephone number is (571) 272-3119. The examiner can normally be reached on Monday-Friday 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H. Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Juan Alberto Torres, Ph. D.  
04-06-2005

  
**MOHAMMED GHAYOUR**  
**SUPERVISORY PATENT EXAMINER**

AMENDMENT UNDER 37 C.F.R. §1.111  
U.S. SERIAL NO. 09/870,843

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Q64787

**AMENDMENTS TO THE DRAWINGS**

Pursuant to the Examiner's requirement set forth on page 2 of the Office Action, Applicant submits concurrently herewith a replacement sheet for Fig. 1 labelled as --Related Art--. In addition, pursuant to the Examiner's objection under 37 C.F.R. §1.83(a), new Fig. 2a is provided to show the features of claims 6, 7 and 8.

Attachments: Two (2) Replacement Sheets illustrating Figs. 1 and 2a